REMARKS

By this Amendment, claims 50 and 51 are cancelled, and claims 20 and 48 are amended. Claim 20 is amended to include the features of cancelled claim 51. Claim 48 is amended to provide strict antecedent basis. Favorable consideration and allowance are respectfully requested in light of the following remarks.

Rejections Under 35 U.S.C. § 103(a)

Claims 20-30, 34-38, 40, 48 and 49 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,638,335 to Ozaki et al. ("Ozaki").

Amended claim 20 includes the features of claim 51, which was not rejected under this ground of rejection. Accordingly, this rejection is moot.

Claims 39, 50 and 51 were rejected under 35 U.S.C. § 103(a) over Ozaki in view of U.S. Patent No. 5,154,881 to Rutz et al. ("Rutz"). This rejection is respectfully traversed.

Claim 39 depends from claim 20. Claim 20 recites a process for preparing high density green compacts comprising the following steps: (a) subjecting a composition of a water-atomized, completely alloyed steel powder, wherein less than about 5% of the powder particles have a size below 45 μm, and a lubricant added to the powder in an amount between about 0.05% and about 0.6% by weight, to uniaxial compaction in a die at a compaction pressure of at least about 800 MPa; and (b) ejecting the green body from the die (emphasis added). Applicants respectfully submit that the combination of Ozaki and Rutz does not suggest the process of claim 20.

The process for preparing high density green compacts recited in claim 20 utilizes a composition of a water-atomized, completely alloyed steel powder, in which less than about 5% of the powder particles have a size below 45 μm. The claimed process uses a small amount of lubricant and a compaction pressure of at least about 800 MPa. The amount of fine particles in the composition controls the compressibility. The compacts have non-deteriorated surfaces. This result is in contrast to known processes, and is obtained by using lower ejection forces. *See* page 5, lines 8-15, of the specification.

In the Official Action dated October 19, 2006, the Office acknowledged that Ozaki fails to disclose a composition of a water-atomized, completely alloyed steel powder. In contrast, Ozaki discloses an iron powder. Ozaki's iron powder contains a balance of iron and impurities. The iron powder may be partially alloyed with alloying powder such that the iron powder and alloying powder are in contact with each other only at the surfaces of the respective powders, or the alloying powder may be bonded to the iron powder by using a binder. (Ozaki at column 7, line 56 to column 8, line 58.)

Ozaki discloses that the highly-compressible iron powder is soft. (Ozaki at column 4, lines 19-22.) Ozaki further discloses that the coarse iron powders are softened to have a Vickers microhardness of at most about 110. (Ozaki at column 4, lines 34-37.) According to Ozaki, the individual coarse particles have a larger influence on the compressibility than the individual finer hard particles.

The completely alloyed steel powder recited in claim 20 has a higher hardness than the hardness of the particles disclosed by Ozaki. Applicants submit that the problems regarding iron powders and steel powders are different. Steel

powders present challenges due to their hardness and compressibility characteristics. Ozaki does not suggest that it would be suitable to use a completely alloyed steel powder instead of the disclosed iron powder. Applicants submit that one skilled in the art trying to overcome the problem of compacting a steel powder to form a compact with a shiny surface would not have looked to Ozaki, which teaches the use of softened coarse iron powder particles in order to achieve high compressibility of the powder.

Rutz does not care the deficiencies of Ozaki with respect to the process of claim 20. Rutz discloses a method of making sintered metal components using a metal powder composition comprising an iron-based powder, and using warm compaction. Rutz discloses that the iron-based powder can be a pre-alloyed, iron-based powder. (Rutz at column 3, lines 10-41.) Rutz discloses that the particles can have a weight average particle size as small as one micron or less, or up to 850-1,000 microns. (Rutz at column 3, lines 53-55). However, Rutz does not disclose or suggest that less than about 5% of the powder particles have a size below 45 μm, as recited in claim 20.

Applicants submit that the Office has not articulated a reason why one skilled in the art would have combined the teachings of Ozaki and Rutz to result in the process recited in claim 20. Ozaki teaches the use of a soft iron-based powder and softening the coarse particles of the powder. As such, Ozaki would have led one having ordinary skill in the art away from the completely alloyed steel powder of claim 20. Furthermore, neither Ozaki nor Rutz suggests using a completely alloyed steel powder having the particle size features recited in claim 20 at the recited

compaction pressure. For at least the foregoing reasons, the combination of Ozaki and Rutz fails to suggest every feature of claim 20.

Thus, the process of claim 39 is patentable over the applied references for at least the same reasons as those for which claim 20 is patentable. Therefore, withdrawal o this rejection is respectfully requested.

Conclusion

For the foregoing reasons, allowance of the application is respectfully requested. Should there be any questions concerning this response, the Examiner is respectfully requested to contact the undersigned at the number given below.

Respectfully submitted,

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